

Linking Monitoring to Decisions and Response at the State and Local Level

SFWMD Water Shortage Management Activities

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Water Supply Bureau Chief

2022 Southeast DEWS Partners Dialogue

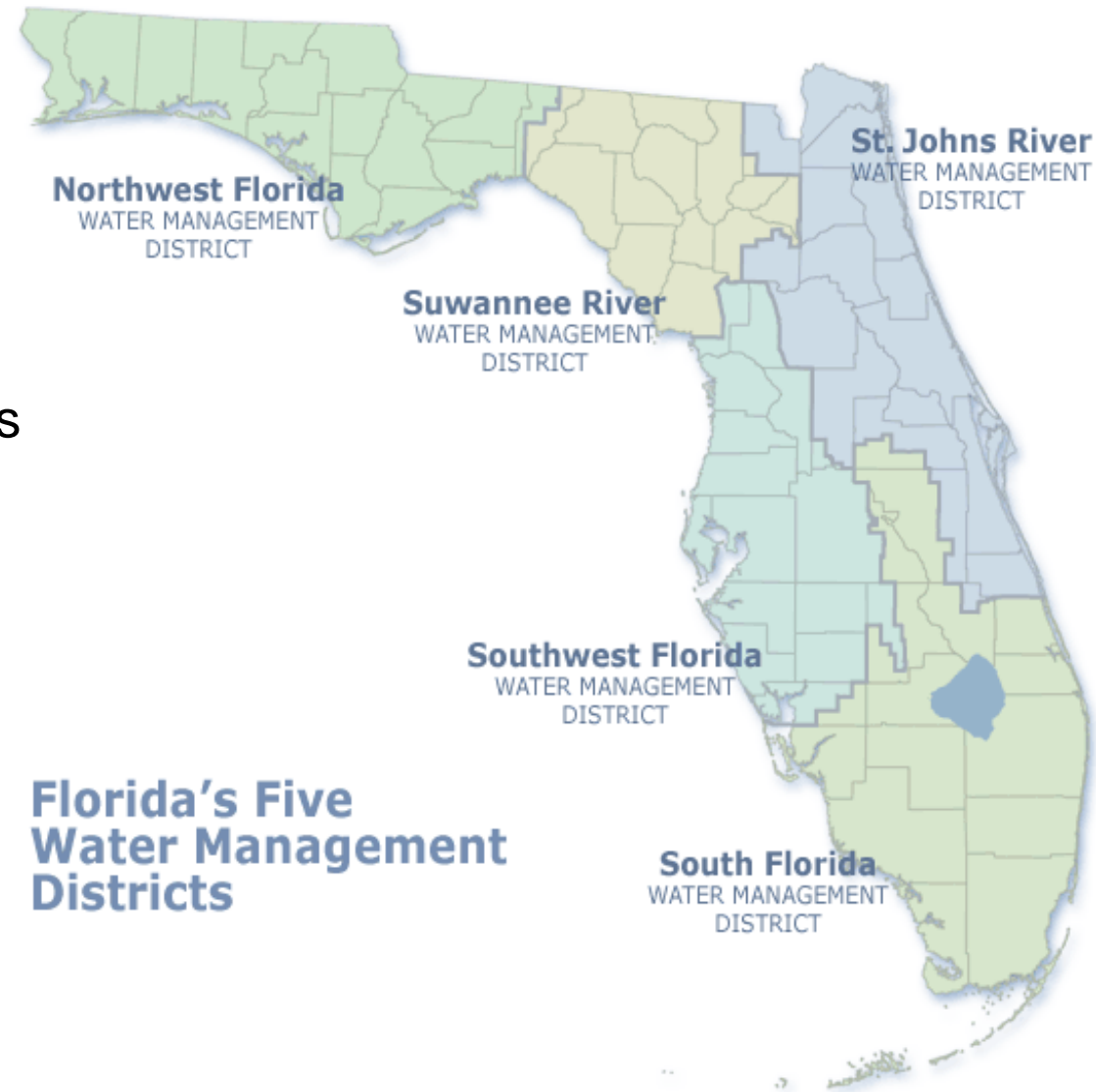
August 9, 2022



Who We Are

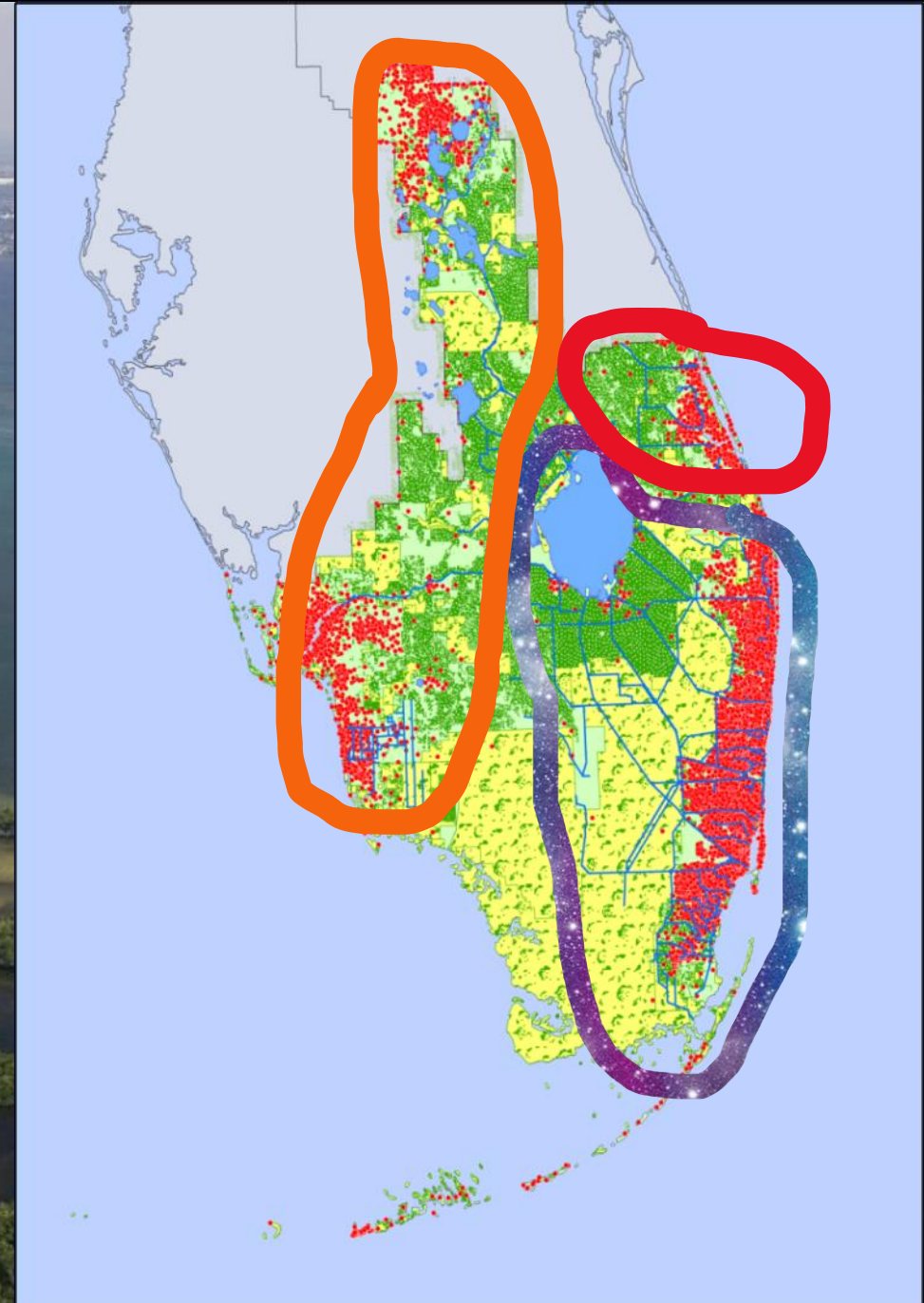
- Created in 1949, oldest and largest of the state's five water management districts
- 16 counties from Orlando to the Florida Keys
- Serve a population of 9 million residents

MISSION: to safeguard and restore South Florida's water resources and ecosystems, protect our communities from flooding, and meet the region's water needs while connecting with the public and stakeholders.



South Florida Water Management District

- SFWMD lands stretch 240 miles from Orlando to the Keys – 16 Counties
- 18,000 sq. miles, encompassing one of the most diverse ecosystems in the world
- Over 2,100 miles of canals
- More than 600 water control structures and 625 project culverts
- 89 pump stations
- About 3,500 hydrological monitoring stations at more than 650 flow sites, including 200 rain gauges and 26 weather stations
- More than 9.1 million residents
- More than 3 million acres of agriculture
- Millions of acres of natural areas protected and managed



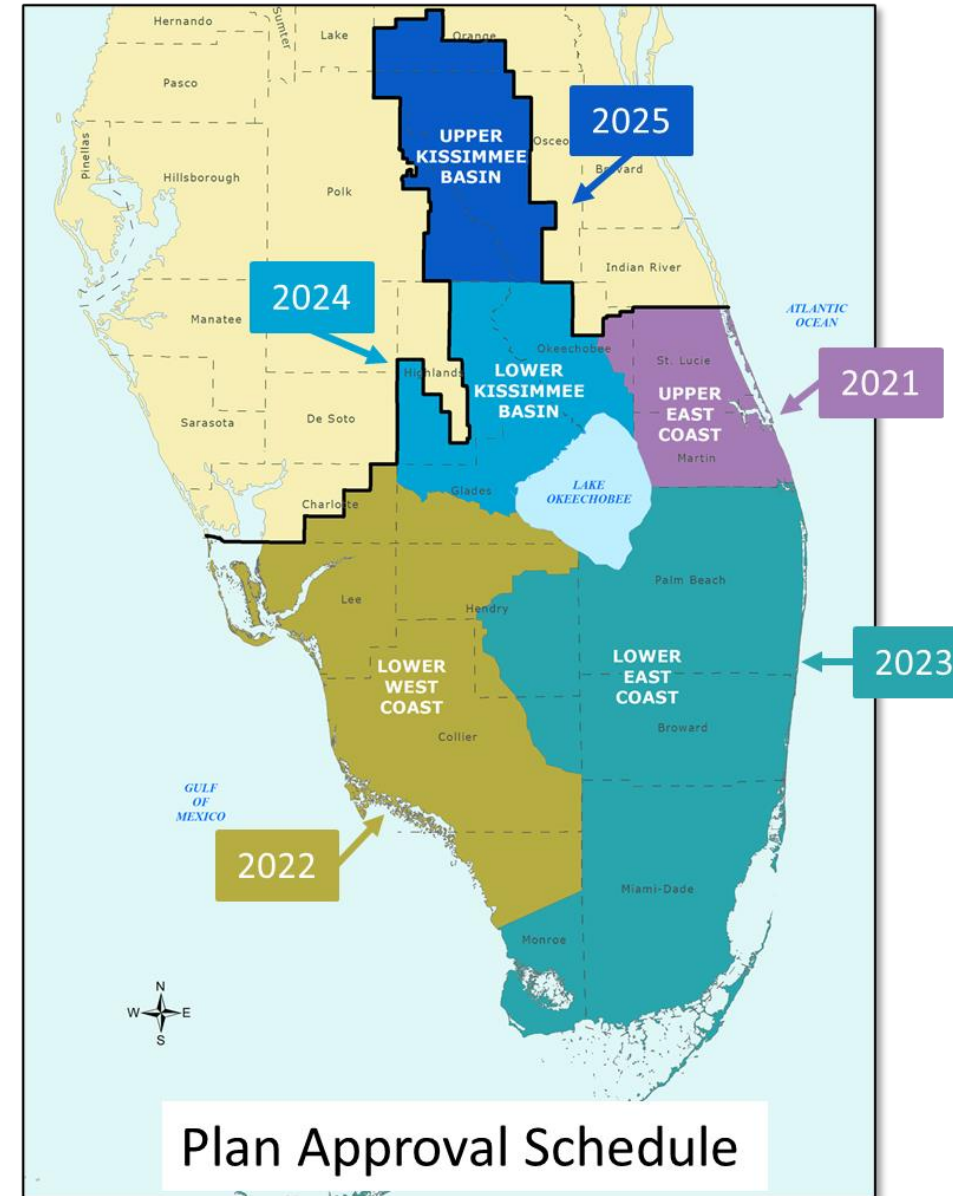
Consumptive Use Permitting

- In Florida, water is a public resource
- Must be managed on a state and regional basis
- To obtain a permit
 - Is reasonable-beneficial;
 - Will not interfere with any presently existing use of water: and,
 - Is consistent with the public interest
- Allocate to a 1-in-10 year drought
- Exempt sources/permit not required
 - Domestic Indoor Use; Seawater; Reclaimed water; Water for fire fighting
- Year-round Landscape Irrigation Conservation Measures Rule



Water Supply Planning

- 20-year planning period
- Demand estimates and projections
- Evaluation of water source options
- Resource analyses
- Issue identification
- Water resource development
 - Responsibility of water management district
- Water supply development
 - Responsibility of water users
- Minimum flows and minimum water levels (MFLs)
 - Recovery and prevention strategies



Challenges of Drought Management

- You don't know it's coming
- You don't know when it's going to be over
- You can't make it rain
- Impacts go on and on and on.....
- Options are limited
- Every decision is subject to Monday morning quarterbacking



When Do We Need to Act?

- Varies with resource type (groundwater, surface water, etc.) location, sensitivity to drought conditions, and need
- Move available supplies with the greatest need and to minimize resource impact, if possible
- If any water shortage restrictions considered are to have positive effect, must anticipate need due to lag time to implement
- Balance public health and safety, economic impacts, and resource impacts



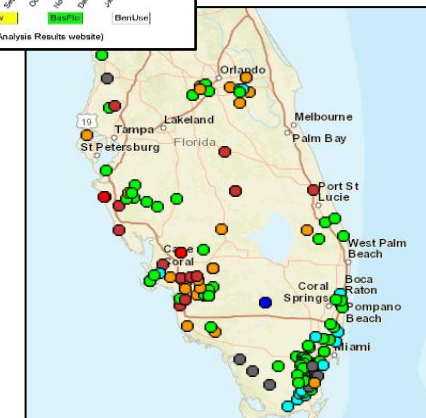
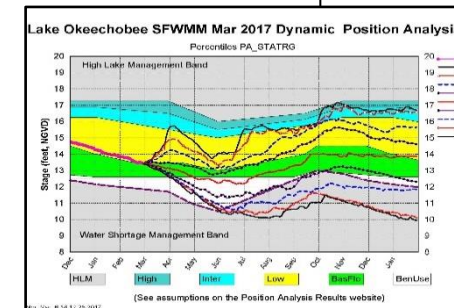
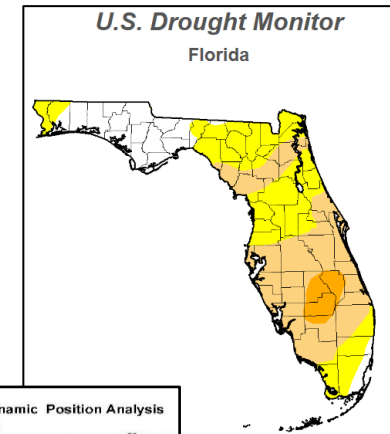


As Conditions Warrant, a Variety of Water Shortage Tools May Be Used

- Increased public information and outreach to reduce usage
- Regional system operations
 - deliver water where needed
 - store water in system opportunistically when it does rain
- Aquifer recharge - reclaimed water and stormwater
- Public water supply operations – shift to more costly alternative water supply sources (Floridan wells / reverse osmosis systems)
- Mandatory water restrictions and enforcement
- Environmental enhancement opportunities
- Deviations from USACE regulation schedules

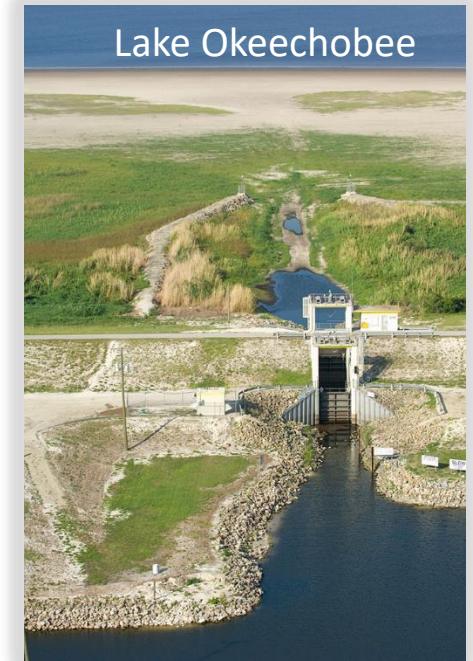
Assessing Water Conditions

- Continuously monitor the regional system
- Water supply source availability
 - Lake Okeechobee / Lake Istokpoga
 - Water Conservation Areas
 - Groundwater aquifers
 - Regional canals
- Water use demands
 - Public water supply
 - Agriculture
 - Tribal entitlements
 - Landscape irrigation & other uses
 - Environmental
- Climatic forecasts
- Water conditions summary presented monthly to Governing Board and public



Water Shortage Considerations

- Anticipated groundwater and surface water levels
- Potential for significant harm to water resources (saltwater intrusion; loss of production wells; ecological impacts, etc.)
- Extent to which imposing cutbacks will reduce potential for significant harm
- Extent to which cutbacks will harm users
- Projected seasonal rainfall fluctuations
- Projected demands on water source

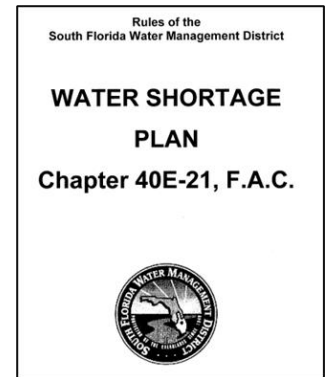


Implementation of Water Shortage Restrictions

- Recommended cutbacks increase as drought severity and potential for harm worsens
 - Phase I* - 15% demand reduction goal
 - Phase II – 30% demand reduction goal
 - Phase III – 45% demand reduction goal
 - Phase IV – 60% demand reduction goal

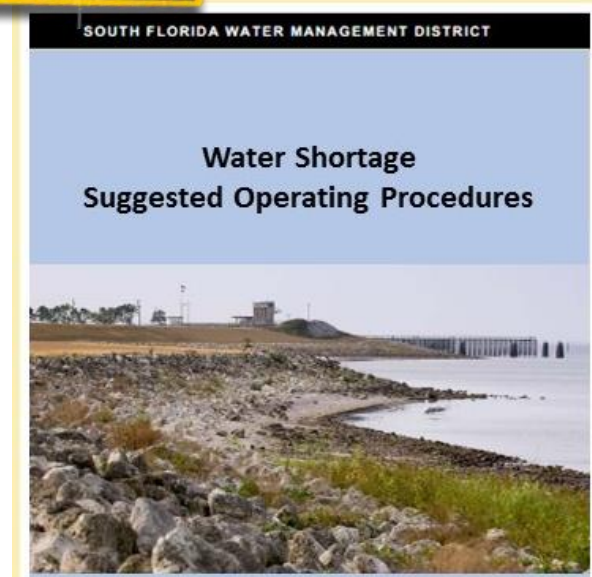
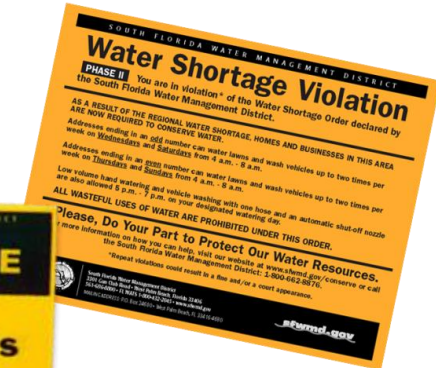
** Year Round Landscape Irrigation Rule equivalent*

- Restrictions specific to water use type – e.g. voluntary reduction in cattle watering; mandated reduction in days allowed for landscape irrigation
- Water Shortage Orders issued by Governing Board -- or Executive Director in an emergency -- with subsequent Board concurrence
- Notification to water users, elected officials, enforcement entities
- Public information and outreach
- Variances / Compliance / Enforcement



Water Shortage Implementation Teams Activated as Conditions Warrant

- Water Conditions Analysis
- Media / Public Information
- Navigation
- Utilities / Public Water Supply
- Water Restrictions
- Compliance and Enforcement
- Variances
- Lake Okeechobee Allocations
- Temporary Forward Pumps
- Stormwater Treatment Areas
- Lake Istokpoga / Tribal Operations
- Upper East Coast Canals
- Diversion and Impoundments/298 Districts
- Fish Kills / Muck Fires
- Environmental Enhancement
- USACE Regulation Schedule Deviations



Water Shortage Outreach

- Media releases
- Created portal for increased reporting of data
- Emails, social media
- “COP” Shops
- Presentations to water use groups
- Lessons learned workshops
- Water shortage model ordinances
- Water Resource Forums

Water Resources Forum Agenda

- I. Forum Objective
- II. District Weather Summary
- III. Regional System Conditions & Operations Summary
- IV. Groundwater Conditions Summary
- V. Local Conditions & Operations
- VI. Discussion

Water Shortage Public Information

REDUCE YOUR WATER USE NO EXCUSE!

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RESIDENTS

	Water Conservation Tips Simple changes in everyday activities, water-saving devices and checking for and fixing leaks all save water. Find out how you and your family could easily save hundreds, even thousands of gallons of water! more >		Water Management 101: A Primer for Residents Ever wondered where all that rain goes? And how our region could find itself in the middle of a drought, when it seems like we live in the middle of all the water anyone could ever need? more >
	Home Water Use Audit Saving water is easier when you know how much water you are actually using. Here's a fun and easy way to see how water-wise you are around your home. more >		Homeowner and Neighborhood Associations Find water conservation tips that are low-tech and fun for the Homeowners Association in mind. You'll also find a water conservation presentation to share with neighbors at your next meeting. more >
	Florida Gardening Tips for the Home Gardener Did you know that many households use as much as half of their total water consumption on irrigation? Here are some ways you can become "rain smart" by saving water outdoors. more >		Recycle the Rain A how-to guide for the South West Florida Water Management District that illustrates how to make and install a rain barrel. more >
	Save water, save money! Find, and fix leaks as soon as possible. Check toilets by putting a few drops of food coloring in your toilet tank. Outdoors, check for broken or misaligned sprinkler heads. Find instructions for repairing a leaky faucet. more >		District Publications & Web Sites Do you need professionally written and designed publications to share with neighbors, your family or guests? Here is a collection of fact sheets and brochures that you can easily download and print for your own use. more >

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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We are experiencing a severe water shortage. If we use water wisely, our residential landscapes can still look green and healthy - even during once-a-week irrigation restrictions.

Carol Melske, Executive Director

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Watering Restrictions

[www.sfwmd.gov/water shortage](#)

- Water Conservation
- Water Restrictions
 - FAQ - Water Shortage
 - 2014 Water Shortage News
 - Water Shortage History
- Measurement & Contracts
- Career Opportunities
- Recreation
- Educator & Publications
- Technical Data & Data
- Weather & Water Conditions
- FAQs
- Contact Us
- Site Info

Water Shortage - January 15

Effective January 15, 2014
Although summer rains raised essential communities, water levels in Lake Okechobee and many other bays, rivers, wetlands and estuaries are very low. That's why **mandatory water restrictions** remain in effect. For most communities, **one-day-per-week restrictions** now apply, and year-round conservation requirements are being considered.

NEWS: South Florida Affects One-Day-a-Week Watering - Regional Water Levels Begin Seasonal Decline; Water Shortage Order Provides "Watering Windows" for Landscape Irrigation. (Dec. 11)

QUESTIONS & ANSWERS - One-Day Per Week Watering

JUST THE FACTS - Extreme Water Shortage Declared

Gulf County, Utilities and Lower East Coast Regional System Users (Agriculture, Tourism & Recreational) | [PERMITTEES - ENTER Water Shortage Data HERE](#)

Lake Okechobee
Lake Okechobee water level as of Feb 11, 2014
9.99 ft.
More than 4 ft. below historical average for this time of year.

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Site News
Check our resources for water conservation media releases and articles.

Tell Us What You Think
Comment on our one-day-per-week watering limits.

Water Conservation Stakeholder Meetings
Representatives from stakeholder water-user groups will participate in a series of meetings to assist the District in developing a year-round water conservation program for South Florida. Click here for the meeting schedule and more information on the stakeholder group representatives.

Current Restrictions

YardSmart Landscaping

More Water-Saving Tips

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Water Shortage Warning

- Current and projected water levels are low
- Advise water users to comply with year-round landscape irrigation rule
- Request users implement additional voluntary water conservation measures
- Increased communication with water users, local government & public
- Provide advance notice that worsening water shortage conditions may result in mandated cutbacks in the near future
- Encourage users with alternative water supply sources to use these sources to the maximum extent practicable

BEFORE THE GOVERNING BOARD OF THE
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Order No.: 2017-026-DAO-WS

IN THE MATTER OF:

Water Shortage Warning for all Use
Classes Withdrawing Surface and
Groundwater within the
Boundaries of the South Florida
Water Management District

ORDER
WATER SHORTAGE WARNING

The Governing Board of the South Florida Water Management District ("District"), after considering recommendations of District staff and being otherwise fully apprised, issues this Order pursuant to Sections 373.083 and 373.246, Florida Statutes, and Chapter 40E-21, Florida Administrative Code, based on the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

1. The entire District is subject to this Order. A map depicting the area governed by this Order is attached hereto as Exhibit A.
2. All surface and groundwater sources as described in Rule 40E-21.631, Fla. Admin. Code, are subject to this Order.
3. All water use classes identified in Rule 40E-21.651, Fla. Admin. Code, are subject to this Order.
4. The hydrologic dry season runs from November 1st through May 31st. Since November 1, 2016, the District has only received 5.20 inches of rainfall, resulting in a rainfall deficit of 6.33 inches, which is well below normal.
5. The U.S. Drought Monitor publishes a weekly drought condition report. This report indicates the Lower Kissimmee Region, which includes portions of Okeechobee, Highlands,

1

Discussion



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Water Utilities
WATER DEMAND REDUCTION
During the
2007-2009 Water Shortage Restrictions



September 2009

Water Utilities Water Demand Reduction Report

- Quantifies water savings resulting from phased water restrictions between 2007 and 2009
- Estimated more than 105 billion gallons of potable water were saved District-wide from March 2007 through April 2009
- Water savings continue after water shortage restrictions